WHY DO YOU NEED TO APPROACH THE BURROW? DOES THIS AFFECT THE OWLS?

Burrowing owls are not harmed by moderate disturbance. Unless their actual nest cavities are damaged or destroyed, burrowing owls will often continue to nest successfully even with moderate disturbance. It is necessary for us to approach the burrow to gather information such as identifying what types of prey the owls are eating and how many juveniles are present.

DOES BANDING HARM THE OWLS?

Banding does not harm the owls. The procedure is short and harmless. Banding allows us to individually identify owls. Methods developed as a result of these studies keep interference at a minimum.

WHAT CAN I DO TO HELP?

There are many ways to help out the project! Installing artificial burrows on your property may attract burrowing owls and provide them with a home. Volunteers are always needed to help with maintenance of artificial burrows, to install new burrows, to monitor active nests, to alert researchers to new nests, and to spread the word about burrowing owl conservation. If you are interested, please contact the Lower Columbia Basin Audubon Society.

WHY STUDY OWLS IN EASTERN WASHINGTON?

Burrowing owls prefer warm, dry climates with plenty of open areas. All of the burrowing owls in Washington live on the east side of the state and a large portion of the state's population of burrowing owls live in Benton and Franklin counties. We want to help ensure that burrowing owls do not disappear from the state.

Dr. Courtney J. Conway is an Assistant Professor in the School of Natural Resources at The University of Arizona. He is also the Assistant Unit Leader for the Arizona Cooperative Fish and Wildlife Research Unit (USGS). He has a bachelor's degree in Wildlife Biology from Colorado State University, an M.S. degree in Zoology from the University of Wyoming, and a Ph.D. in Ecology from the University of Montana. He has published more than 20 manuscripts and book chapters on his research on the effects of environmental and land-use changes on populations of birds.

Mark Southern is a Research Technician in the School of Natural Resources at the University of Arizona. He has been working on the Burrowing Owl Project since March 2003 and coordinates all field personnel and activities.

Charlotte Reep is the Coordinator of the Lower Columbia Basin Audubon Society's burrowing owl project. She and her volunteers have installed over 150 artificial burrows in the Tri-Cities area since 1998.

Burrowing Owl Project

Eastern Washington

Athene cunicularia

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WHAT IS THE PROJECT'S MAIN GOAL?

Burrowing owl populations across North America have experienced both range contractions and population declines in recent years. We are interested in gaining a better understanding of burrowing owl ecology in order to aid in conservation efforts. We monitor burrowing owls in Benton, Franklin, Grant, Adams, and Walla Walla counties.

WHO IS INVOLVED IN THE PROJECT?

The burrowing owl project has brought together many people and organizations who have an interest in burrowing owls. Project cooperators include the University of Arizona, Washington State University, the Bureau of Land Management, the Washington Department of Fish and Wildlife, the U.S. Fish and Wildlife Service (including Hanford Reach National Monument, Columbia National Wildlife Refuge, and McNary National Wildlife Refuge), the U.S. Geological Survey, the National Fish and Wildlife Foundation, the Lower Columbia Basin Audubon Society, the United States Golf Association, and 8 local golf courses.

WHAT IS THE TIME FRAME FOR THE PROJECT?

The project began in 2000. This is the forth year of the project and we anticipate continuing the study for at least 1 more year.

WHAT QUESTIONS WILL THE PROJECT ANSWER?

We are asking three main questions:

1) What is the population trend of burrowing owls in eastern WA?
2) What environmental factors influence burrow occupancy and owl survival?
3) Do owls nesting in natural and artificial burrows differ in their reproductive success?

The first question is answered by conducting large-scale roadside surveys throughout the area to locate owls. Roadside surveys help us estimate how many birds are nesting in the area. We also attempt to band all known owls with a uniquely-numbered color band. Re-sighting banded owls the following year allows us to estimate annual survival of burrowing owls. Survey and survival information can then be combined to determine if the population is increasing, decreasing, or remaining stable.

The second question is answered by measuring vegetation and landscape features surrounding each burrow to determine habitat preferences and factors beneficial to owl reproductive success.

To answer the third question we visit artificial and natural nests weekly to determine how many nests produce young and how many young are produced at each nest. We can then compare success between artificial and natural burrows.

WHY ARE THERE FEWER OWLS SOME YEARS?

Most burrowing owls in this area migrate south for the winter each year. The owls then return to the area the following spring to breed. Some males stay in the area throughout the winter. In the spring, males generally return in mid-February to late-March. Females usually arrive a little later in the spring. Adult owls frequently return to the same burrow or area to breed each year, and young owls have been known to return to the area where they were born.

Reproductive success varies year to year in burrowing owls due to annual variation in food abundance. Nests may have as many as 6 juveniles survive to maturity in a year of high food abundance. These juveniles spread out to nearby burrows giving the appearance of a lot of owls. The following year the same adults may return, but raise only 1 or even no young due to lower food abundance. This can give the impression of a major reduction in the number of owls. Our studies have found that burrows that were moderately disturbed by regular visits do not vary in the number of offspring produced or in the probability of nest abandonment.

Finally, burrowing owl nests are not always re-occupied each year - this is a natural phenomenon. Sometimes owls die during the winter or burrows collapse internally leaving burrows unoccupied.